Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

1.(Currently Amended) A conveying device with peristaltic movement, which includes:

a flexible transport tube suitable for use inside a human body as an artificial part of the human gut;

a two-way shape memory alloy having a coil form; and

a temperature controlling device,

wherein the conveying device contracts a cross-sectional area of a transport path in said flexible transport tube by utilizing contractive force obtained when [[a]] the two-way shape memory alloy is heated, then restores an original cross-sectional area of the transport path in said flexible transport tube by utilizing recovery force obtained when heating the two-way shape memory alloy is terminated, and which controls repetition of the contraction motion and the restoration motion by [[a]] the temperature controlling device, so as to transport an object in a predetermined direction by peristaltic movement.

2. (Cancelled)

3. (Original) A device according to Claim 1, wherein the contraction motion or the restoration motion is an action that causes part of the cross-sectional area of transport path in the flexible transport tube to be contracted or restored.

4. (Cancelled)

5. (Original) A device according to Claim 1, wherein the temperature controlling device moves sequentially a position to be contracted or to be restored in an object conveying direction.

6. (Cancelled)

7. (Original) A device according to Claim 3, wherein the temperature controlling device moves sequentially a position to be contracted or to be restored in an object conveying direction.

8. - 15. (Cancelled)

16. (Original) A device according to Claim 1, wherein the temperature controlling device is an electric conduction and heating device which changes the temperature of the two-way shape memory alloy.

17. (Cancelled)

18. (Original) A device according to Claim 1, wherein the temperature controlling device is an external heating device which changes the temperature of the two-way shape memory alloy.

19. (Cancelled)

20. (New) A conveying device for use inside a human body as an artificial part of the gastrointestinal tract, the device comprising:

a flexible transport tube;

a two-way shape memory alloy having a coil form, which is in contact with the flexible transport tube; and

a temperature controlling device for heating the two-way shape memory alloy,

wherein the temperature controlling device sequentially heats a section of the two-way shape memory alloy causing the two-way shape memory alloy to cause a cross-sectional area of the flexible transport tube to contract then terminates heating of the section of the two-way shape memory alloy and heats an adjacent section of the two-way shape memory alloy causing an adjacent cross-sectional area of the flexible transport tube to contract so as to transport matter inside the flexible transport tube in a predetermined direction by peristaltic movement.